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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,016	12/05/2001	Kenneth H.P. Chang	SSI005US	4713

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PATENT LAW OFFICES OF DAVID MILLERS
6560 ASHFIELD COURT
SAN JOSE, CA 95120

EXAMINER

FLANDERS, ANDREW C

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,016

Applicant(s)

CHANG, KENNETH H.P.

Examiner

Andrew C. Flanders

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 7-21 is/are rejected.
7) ☒ Claim(s) 6 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 13 October 2005 have been fully considered but they are not persuasive.

Applicant alleges:

“However, neither Moeller nor Davis provides any guidance on how to handle time scaling of stereo or other multi-channel audio. In particular, Moeller and Davis fail to disclose or suggest “time scaling . . . using the offset for the interval corresponding to the frame when time scaling the frame.””

Examiner respectfully disagrees with this allegation. As discussed in the previous office action, the combination of Davis in view of Moeller does not disclose time scaling of multi-channel audio. However, the Moeller reference does indicate that the time scaling can be used for an NTSC signal. As stated before, one audio implementation for the NTSC standard is stereo audio. Thus, it would have been obvious for one skilled in the art reviewing the two references to consider duplicating the combination (as duplication has been shown to be an obvious expedient) for a left and a right channel audio signal thus providing time scaling.

Applicant further alleges:

Applicant has discovered that this artifact can be avoided or reduced through use of the same offset when time scaling corresponding frames from different channels of an audio signal. Davis and Moeller fail to suggest the existence of this problem when time scaling multi-channel audio, and fail to discuss Applicant's solution of “for each of the frames,

...using the offset for the interval corresponding to the frame when time scaling the frame." Accordingly, claim 1 is clearly patentable over the combination of Davis and Moeller.

Examiner respectfully disagrees with this allegation. First, Applicant's allegation that "Applicant has discovered that this artifact can be avoided or reduced through use of the same offset when time scaling corresponding frames from different channels of an audio signal" is not persuasive as this limitation is not claimed in the currently presented claim 1. Reading the claims as broadly as possible with based upon the information supplied from Applicant's specification allows for the interpretation applied in the previous rejection. Applicant shows in the disclosure and Fig. 1 partitioning left and right signals into a plurality of intervals ILx and IRx. In Fig. 2a of Davis, there are 3 defined intervals in the action, the point before A, between A and B and the point after B. Thus it is reasonable to read that Davis is partitioning his signal into intervals/frames by defining the points. Davis then determines for the interval/frame AB the length of the splice, or the offset as claimed by Applicant. This process continues for the remainder of the audio signal. Thus it is shown that Davis discloses "for each of the frames, ...using the offset for the interval corresponding to the frame when time scaling the frame" as claimed by Applicant.

Applicant further alleges:

Claim 5 further distinguishes over the combination of Davis and Moeller by reciting, "determining an offset for an interval comprises searching average data that results from averaging data used in time scaling processes for the multiple data channels."

Examiner respectfully disagrees with this allegation. As shown in the previous rejection, Davis discloses using an average magnitude difference to determine the splice point while moving the window (i.e searching). Duplicating this process for multiple channels as shown in claim 1 would then read upon using the averaging data used in time scaling processes for the multiple data channels. It is believed by the Examiner that Applicant intends to average over all of the channels. However, in the current claim presentation, it is reasonable to interpret the claim as independently averaging each channel as is done in the rejection.

Applicant further alleges:

Claim 9 further distinguishes over the combination of Davis and Moeller by reciting, "determining an offset for an interval comprises: for each of a series of candidate offsets, accumulating differences between each frame corresponding to the interval and respective blocks that the candidate offset identifies." The combination of Davis and Moeller fails to suggest accumulating differences associated with different audio channels during an offset determination.

Examiner respectfully disagrees with this allegation. Again, it is believed by the Examiner that Applicant intends to accumulate differences over all of the channels. However, in the current claim presentation, it is reasonable to interpret the claim as independently accumulating differences for each channel as is done in the rejection.

Applicant further alleges:

"Claim 10 further distinguishes over the combination of Davis and Moeller by reciting, "determining an offset for the interval comprises extracting the offset from an augmented audio data structure that includes

the frames and a set of predetermined offsets that correspond to the intervals and a set of time scales."

Examiner respectfully disagrees with this allegation. As shown in the previous rejection, the combination does disclose these limitations as interpreted as broadly as reasonably possible.

Applicant further alleges:

"Claim 11 further distinguishes over the combination of Davis and Moeller by reciting, "determining an offset for the interval comprises: accessing an augmented audio data structure that includes the frames and a set of predetermined offsets that correspond to the intervals and a set of time scales." "

Examiner respectfully disagrees with this allegation. As shown in the previous rejection, the combination does disclose these limitations as interpreted as broadly as reasonably possible.

Applicant further alleges:

"The combination of Davis and Moeller provides no suggestion of augmented audio data structures such as recited in claims 10 and 11."

Examiner respectfully disagrees with this allegation. The combination's audio data before the time scaling would read upon the augmented audio data structures as claimed by Applicant and shown in the previous rejection.

Applicant further alleges:

Independent claim 12 distinguishes over the combination of Davis and Moeller at least by reciting, "determining an offset that identifies a right block of samples and a left block of samples; and using the right block in generating time-scaled samples for the right channel; and using the left block in generating time-scaled samples or the left channel." As noted above, Davis and Moeller are silent as to how to process multi-channel audio data. In particular, the combination of Davis and Moeller fails to suggest determining a single offset that identifies both a left block and a right block of audio data that are used in time scaling of audio frames. Accordingly, claim 12 is patentable over the combination of Davis and Moeller.

Examiner respectfully disagrees with this allegation for the same reasons stated above regarding the arguments based on the rejection of claim 1. Further, Applicant alleges the combination fails to suggest determining a **single offset** that identifies both a left block and a right block of audio data that are used in time scaling of audio frames. This limitation of a single offset (emphasis added) is not claimed and thus renders the argument moot.

Applicant's arguments based upon claims 4, 7, 8, 13, 14, 15, and 21 are primarily directed to the allegation that the combination of Davis in view of Moeller do not

disclose time scaling of a multi channel audio signal. These arguments are not persuasive for the same reasons stated above regarding claims 1 and 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 3, 5, 6, 9 and 16 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis (U.S. Patent 4,757,540) in view of Moeller (U.S. Patent 5,995,153) for the same reasons stated previously in the Office Action dated 14 July 2005.

Regarding **Claim 10**, in addition to the elements stated regarding claim 1, the combination of Davis in view of Moeller further discloses:

wherein determining an offset for the interval comprises extracting the offset from an augmented audio data structure that includes the frames and a set of predetermined offsets that correspond to the intervals and a set of time scales (i.e. when an acceptable correlation window is found, the splice point is selected and the two points are spliced together thereby removing the audio data between the points; Figs. 2a – 2d in Davis).

Regarding **Claim 11**, in addition to the elements stated regarding claim 1, the combination of Davis in view of Moeller further discloses:

accessing an augmented audio data structure that includes the frames and a set of predetermined offsets that correspond to the intervals and a set of time scales (i.e. the audio segment is first examined and two preliminary splice points are selected, Fig 2a in Davis);

interpolating between the predetermined offsets to determine an offset corresponding to the interval and a current time scale for the process (i.e. the second correlation window is moved until an acceptable splice point is found and then selected; Fig. 2d element 32).

Claims 4, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis (U.S. Patent 4,757,540) in view of Moeller (U.S. Patent 5,996,153) and in further view of Matoba (U.S. Patent Application Publication 2002/0065569) for the same reasons stated previously in the Office Action dated 14 July 2005.

Claims 7, 8, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis (U.S. Patent 4,757,540) in view of Moeller (U.s. Patent 5,995,153) and in further view of Beckwith (U.S. Patent 5,940,573) for the same reasons stated previously in the Office Action dated 14 July 2005.

Allowable Subject Matter

Claim 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The arguments regarding claim 6 are persuasive. The prior art does not explicitly disclose determining an average frame from a combination of all frames corresponding to the interval (essentially averaging over all of the multiple channels), searching for a best block that best matches the average frame or selecting for the offset of the interval a value that identifies the best block found for the average frame. The prior art merely discloses averaging single channels and thus duplication would not read upon this limitation. Thus, the averaging as stated by Applicant would correct the problem with independently time scaling the audio channels which may cause the listener to perceive a movement or fluctuation in the apparent location of the sound source. As such, the claim is considered to contain allowable subject matter.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

acf



HUYEN LE
PRIMARY EXAMINER